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The Providence Hurricane Barrier: An Assessment

Josh Chalchinsky, Roger Williams University

Providence, Rhode Island's Fox Point Hurricane Gates are a valuable protection against storm surges and the city's first line of defense. Built in response to the 1938 and 1954 Hurricane disasters, when Providence experienced flooding of up to eight feet, Fox Point has served the city well through several, smaller hurricanes. The question, especially given what happened to New Orleans last year, is: Should the gates be upgraded and replaced?

A century ago, Providence, Rhode Island was the second largest city in New England. Its main business district was located right next to the Providence River, eight to twelve feet above average sea level. Before 1960, Providence experienced great economic damage and loss from tidal flooding. In the 1938 hurricane and Hurricane Carol in 1954, Providence was flooded with a water depth exceeding eight feet. It was terribly destructive; \$120 million alone in Providence in 1938. In 1954, Hurricane Carol's path went right through Providence. By the time it was through, parts of Providence were utterly destroyed and flooded; flood tides were thirteen feet above normal. Even worse was that the storm came with very little warning; amazingly, by today's standards, the National Weather service failed to give a warning. The downtown area was not the only area damaged. Other surrounding areas were also hit hard. But Providence is the capital city.

In response to these disasters, the Army Corp of Engineers, after much study, decided to construct a barrier up the Providence River from Narragansett Bay in order to limit the impact of such catastrophic events. If a barrier had been in place during the storms of 1938 and 1954, it was estimated that it would have saved \$80 million not adjusted for inflation. It was claimed that the proposed barrier would have protected 75% of the Providence areas damaged by the storms. The Fox Point Hurricane Barrier was subsequently authorized by the Flood Control Act of 1958. On November 8, 1960, Rhode Islanders decided to support the cost of the \$15,000,000 Hurricane Barrier through the issuance of bonds. Soon after, it became the first structure of its type approved for construction in the United States.

Located at Fox Point on the Providence River, the hurricane barrier provides protection to a major portion of the city of Providence, which includes the downtown commercial and industrial

center of the city, extensive transportation facilities like the Kennedy Plaza bus terminal and the Amtrak station, in addition to public utilities and residential areas.

According to meteorologists from the AccuWeather Center in State College, Pa, the Northeast, especially Southern New England, is due for an intense hurricane this season; Category 3 or higher. With Providence, Rhode Island right in the middle of its possible path, the citizens of Rhode Island need to know if the Fox Point Hurricane Gates can protect their capital. The reason they say a powerful hurricane could be coming New England's way is that it has not had a major storm in decades. New Englanders mostly have experienced only the remnants of storms that hit other parts of the country, such as Hurricane Gloria in 1985 and Hurricane Bob in 1991, which brought heavy rains and wind, but only localized flooding and power outages.

How can people be sure if the Gates will be able to handle such a massive storm? Since being built in 1966, the Fox Point Gates have not had any significant upgrades or improvements; only minor replacements and changes. Moreover, in the time they have been in existence, the Gates have not had to stand up to truly challenging winds and storm surges. What if something went wrong? Some unforeseen or unexpected accident or disaster that pushed the Gates beyond their limits? What would happen to Providence in a worst-case scenario? In 1938, "The Long Island Express", as that Hurricane came to be known, caused massive flooding, power outages, and wind damage. That was seventy years ago. Who knows what we could see this year if the Gates were overwhelmed?

In New Orleans, in response to Hurricane Katrina, the Army Corps of Engineers are installing 45ft tall gates that will block storm surges from entering and toppling the levees like what happened during Katrina.

The Fox Point Gates can withstand storm surges up to and including 25ft. Any higher than that the water would simply flow over them and into the city. It is a 700ft long concrete barrier across the Providence River.

The real question is: How much risk is acceptable to the people of Providence—and the state?

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